

REMARKS

In the following discussion, all references to the Manual of Patent Examining Procedure (MPEP) are to sections of the Eighth Edition, Revision 3, August 2005.

ISSUES FOR CONSIDERATION

1. Whether or not the finality of the final rejection should be withdrawn, the present amendment and affidavit entered, and claims 8 - 17, 34 and 35 allowed.
2. Whether or not the applicants' invention has been enabled under 35 USC 112.
3. Whether or not the invention of claims 8 - 17, 34 and 35 is anticipated by the references cited by the Examiner.
4. Whether or not the invention of claims 8 - 17, 34, and 35 is rendered obvious by the references cited by the Examiner.

I. THE FINALITY OF THE REJECTION SHOULD BE WITHDRAWN

The finality of the rejection should be withdrawn as premature and applicants' claims 8 - 17, 34, and 35 allowed. It is respectfully requested that the Examiner withdraw the finality of the rejection mailed March 15, 2006,

enter the proposed amendments to claims 8 and 34, and enter the affidavit under 37 CFR 1.132 for the following reasons:

A. Claims 8 and 34 have been proposed to be amended to present these claims in Jepson form as in better form for appeal under 37 CFR 1.75 (e). Amending these claims to place them in Jepson form clearly makes the Jepson claim form preamble a part of the claim definition but does not change the scope of the claims (or claims dependent thereon) and thus, can be admitted under 37 CFR 1.116 (b) (2). As noted in MPEP 608.01 (m) a Jepson form claim under 37 CFR 1.75 (e) is considered a combination claim and the preamble of this form of claim is considered to positively and clearly include all the elements recited therein as part of the claimed combination.

In general, a preamble will be considered a limitation on the claim if it recites essential structure or steps or if it is "necessary to give life, meaning, and vitality" to the claim (Pitney Bowes, 182 F. 3d at 1305). No litmus test defines when a preamble limits claim scope (Corning Glass, 868 F. 2d at 1257). However, certain guidelines (exceptions to the general rule as stated in MPEP 2114), indicating when a preamble will limit the scope of a claim, have recently emerged from various decisions of the Court of Appeals for the Federal Circuit (Fed. Cir.) as follows:

(1) Jepson claiming generally indicates the intent to use the preamble to define the claimed invention, thereby limiting claim scope. See *Rowe*, 112 F. 3d at 479 (Fed. Cir. 1997) and *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F. 3d 1022, 1029, 61 USPQ 2d 1470, 1475 (Fed. Cir. 2002).

(2) The dependence on a particular preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and the body of the claim to define the claimed invention. See *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F. 3d 615, 620, 34 USPQ 2d 1816, 1820 (Fed. Cir. 1995).

(3) When the claim drafter chooses to use both the preamble and the body of the claim to define the subject matter of the invention, the invention so defined, and not some other, is the one the patent protects." or when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope. See *Pitney Bowes*, 182 F. 3d at 1306.

(4) When the preamble recites additional structure or steps underscored as important by the specification, the preamble may operate as a claim limitation. See *Corning Glass*, 868 F.2d at 1257, USPQ 2d 1962, 1966 (Fed. Cir. 1989); *General Electric Co. v. Nintendo Co.*, 179 F. 3d 1350, 1361-62, 50 USPQ 2d 1910, 1918-19 (Fed. Cir. 1999); *Rowe*, 112 F. 3d at 479-80 (Fed. Cir. 1997); and *Applied Materials*, 98 F. 3d at 1573.

(5) When the applicant exhibits clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art this transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention. See generally *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F. 3d 1368, 1375, 58 USPQ 2d 1508, 1513 (Fed. Cir. 2001).

(6) A preamble may limit the claim when relied upon to distinguish a new use of a prior art apparatus or process. Without such reliance, however, a preamble generally is not limiting when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention. See *IMS Tech., Inc, v. Haas Automation, Inc.*, 206 F. 3d 1422, 1434, 54 USPQ 2d 1129, 1136-37 (Fed. Cir. 2000).

(7) Preamble language merely extolling benefits or features of the claimed invention does not limit the claim scope without clear reliance on those benefits or features as patentably significant. See *STX, LLC v. Brine, Inc.*, 211 F. 3d 588, 591 (Fed. Cir. 2000)

Here, the preamble is essential to point out that the article invention claimed is an improvement in electrolytic cells for the production of an alkali metal chlorate. Clearly, the applicants have chosen to rely upon the preamble

of claims 8 and 34 to distinguish the claimed invention over the references cited by the Examiner. The proposed Jepson preamble of claims 8 and 34 not only provides antecedent basis for subsequent claim terms but indicates the intent of the applicants to use the preamble to define the claimed invention, thereby limiting the scope of claims 8 and 34 and claims dependent thereon.

B. Should the Examiner consider that placing claims 8 and 34 in Jepson form touches the merits of the application, it is respectfully submitted that, even under these circumstances, the amendment of claims 8 and 34 can be admitted under 37 CFR 1.116 (b) (3) because of the following good and sufficient reasons why the amendments are necessary and were not earlier presented.

These amendments are considered necessary because in the final rejection, page 10, first paragraph, it is noted that the Examiner has considered that the previously amended claim 8 and new claim 34 in reciting the preamble:

"...for the continuous, cyclic production of an alkali metal halate..."

has been given no patentable weight, in accordance with MPEP 2114, which merely states the "general" rule, citing the earlier cases of Hewlet-Packard Co.

v. Bausch & Lomb Inc (Fed. Cir.1990); In re Schreiber (Fed. Cir. 1997); In re Swinehart (CCPA 1971); and In re Danly (CCPA 1959).

C. It is respectfully submitted that while MPEP 2114 may state the general rule regarding scope limiting preambles in article claims, the exceptions to the general rule enumerated above in items (1) - (7), which are in accordance with MPEP 2111.02 (II), last two (recently added) paragraphs, are more appropriately applied to the preambles of claims 8 and 34 such that:

(1) The applicants' recitation of intended use in original claim 8 and new claim 34 and the clear reliance of the applicants on this preamble during prosecution

(2) Distinguishes the claimed invention over the cited references by

(3) Transforming the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention.

D. The applicants' preamble in amended claim 8 and new claim 34 does not merely extol the benefits or features of the invention for to do so would not limit the scope of the claims. However, the applicants' clear reliance upon the proposed use in the original claim 8 preamble and in the preamble of new

claim 34, as well as in the Jepson form claim preamble proposed in the amendment herein of claims 8 and 34 limits the scope of the applicants' claims to an assembly for the production of an alkali metal halate. In addition, the proposed Jepson form preamble of claims 8 and 34 provides antecedent basis for terms used in the body of these claims. See the cases cited in the last paragraph of MPEP 2111.02 (II).

In *Rowe v. Dror et al.* 112 F. 3d 473, 42 USPQ 2d 1550, (Fed. Cir. 1997) cited with approval in *Catalina Mktg. Int'l. v. Coolsavings.com*, referred to in the latter section of the MPEP, the Court set forth guidelines for a determination of whether or not a preamble should be considered to define, in part, the claimed invention:

"The determination of whether preamble recitations are structural limitations or mere statements of purpose or use "can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim." *Corning Glass Works*, 868 F. 2d at 1257. The inquiry involves examination of the entire patent record to determine what invention the patentee intended to define and protect. See *Bell Communications*, 55 F. 3d at 621 (looking to patent specification to determine whether claimed invention includes preamble recitations); *In re Paulsen*, 30 F. 3d 1475, 1479, 31 U.S.P.Q. 2D (BNA) 1671, 1674 (Fed. Cir. 1994) (examining "patent as a whole"); *Vaupel Textilmaschinen KG v. Meccanica Euro Italia SPA*, 944 F. 2d 870, 880, 20 U.S.P.Q. 2D (BNA) 1045, 1053 (Fed. Cir. 1991) (looking to claims,

specification, and drawings); *Gerber Garment Tech., Inc. v. Lectra Sys., Inc.*, 916 F. 2d 683, 689, 16 U.S.P.Q. 2D (BNA) 1436, 1441 (Fed. Cir. 1990) (noting that preamble recitations provided antecedent basis for terms used in body of claim); *Corning Glass Works*, 868 F. 2d at 1257 (considering the specification's statement of the problem with the prior art); *Kropa*, 187 F. 2d at 152 (noting that preamble sets out distinct relationship among remaining claim elements)."

E. Inspection of the entire record in this case reveals that an alkali metal halate electrolytic cell is, in fact, a structural limitation of the applicants' claims. To begin with, the applicants clearly intend to limit the scope of their claims to an electrolytic cell for the production of an alkali metal halate, as evidenced by the specification statement of the Field of the Invention and the Related Art. In such cells of the prior art, the anode and cathode are exposed to the same electrolyte, there being no cell separator of any kind. What the applicants invented was a cell to produce an alkali metal halate which includes a specific cell separator, a structure not disclosed as used before in such an electrolytic cell or in any chlor-alkali cell. During prosecution, the applicants clearly relied upon this structural difference, to distinguish over the structural differences of the chlor-alkali cell separators. Simply employing a cell for the production of chlor-alkali would not allow the applicants' cell to function as intended unless the particular cell separator disclosed by the applicants is used, which is defined in claim 8 as having low alkali metal ion transport efficiency. The preambles of original claims 8 and 34 are claim limitations that delineate the scope of the prior art for the applicants' improvement invention.

The use of the proposed Jepson claim preamble in amended claims 8 and 34 herein suggests the structural importance of the recitations in the preamble. The Jepson form allows an applicant to use the preamble to recite elements of the claimed invention which are known or conventional (37 CFR 1.78 (e)). When this form is used, the claim preamble defines not only the context of the claimed invention but also its scope, i.e., the prior art. The claimed invention consists of the proposed Jepson form preamble in combination with the stated improvement (MPEP 608.01 (m)). Thus, the Jepson claim format proposed for claims 8 and 34 indicates the applicants' intention to use the preamble to define, in part, the structural elements of the claimed invention. The article for which applicants claim an improvement is, an electrolytic cell for the production of an alkali metal halate.

In accordance with the above cases, the applicants respectfully submit that references disclosing electrolytic cells directed to the production of chlor-alkali and other products are not prior art which one skilled in this art would consider in evaluating the patentability of the applicants' claimed invention. Accordingly, the final rejection is considered premature as relying upon references which are not prior art to the applicants' claimed invention.

F. With respect to the rejection of new claim 34 based upon the new reference to Sawamoto et al., the citation of this new reference is considered unnecessary since:

(1) If the Examiner erroneously chooses to ignore the limiting nature of the preamble claim recitations as limiting the scope of claim 8, it is considered that to be consistent that the Examiner would be expected to also choose to ignore the same preamble limitations in new claim 34 and

(2) Since Kelham discloses both an unmodified permselective polymer membrane (not the low alkali metal ion efficiency membrane recited by the applicants in claim 8), as well as (according to the Examiner) gas and liquid disengagers,

(3) Then it is considered that there was no necessity for using the new ground of rejection (Sawamoto et al.), when Kelham could have been used instead.

Thus, it is considered that the applicants' addition of new claim 34 does not (contrary to the Examiner's assertion) require citation of a new ground of rejection and, accordingly, require a second action final rejection. For all the reasons given above it is respectfully requested that the Examiner reconsider and withdraw the final rejection.

II. THE APPLICANTS' INVENTION IS ENABLED

The Examiner continues to confuse the issue of the enablement of the applicants' invention by his emphasis on requiring a disclosure of how to make the permselective membrane component of the assembly invention of claims 8 - 17. Apparently, the Examiner erroneously concludes that the applicants' invention is the low alkali metal ion transport efficiency permselective polymer membrane recited in these claims. This, in spite of the discussion in the applicants' response to the previous official action in the paragraph spanning pages 19 - 20 to the effect that the applicants' invention is an assembly not the membrane component thereof (said pages incorporated herein by reference).

The Examiner also continues to indicate that the scope of the disclosure of the membrane component having a transport efficiency of less than 60 % to less than 20 % is not enabled. As indicated in the applicants' prior response in the paragraph spanning pages 20 and 21, and in the remainder of page 21, (incorporated herein by reference) the scope of enablement must only bear a reasonable correlation to the scope of the claims in view of the references cited therein as the basis for this statement.

Nevertheless, the applicants have enclosed herewith an affidavit under 37 CFR 1.132 to provide a further description of the useful membrane disclosed in Example 10, as Nafion 551. The submission of this affidavit is not

required as a condition for patentability but is merely provided at this time in response to the Examiner's suggestion in the final rejection on page 9 (b), last sentence, that data be submitted. As indicated in the enclosed affidavit, membranes sold under the tradename Nafion 112, 1135, 115, and 117, being unmodified by the addition of Teflon fibers, would not have the property recited in the applicants' claims of low alkali metal ion transport efficiency. Entry of the amendment and affidavit and reconsideration and allowance of the applicants' claims 8 - 17 and 34 and 35 are respectfully requested.

III. ANTICIPATION

Claims 8 - 12 and 17 are again rejected as anticipated over Kelham with evidence from de Nora '452 and de Nora et al.'979. As noted on page 23 of the prior response, each of these references disclose chlor-alkali electrolytic cells, as noted in the abstract, and, accordingly, disclose only membranes which would not be useful in the claimed cell assembly since the membranes of all the references cited would have a different structure with different properties (high alkali metal ion transport efficiency) rather than the low alkali metal ion transport efficiency permselective membrane component of the assembly of the applicants' claims 8 - 12 and 17.

It is considered that the assumption of the Examiner that Kelham also discloses gas and liquid disengagers (12 and 18) is without basis in the

reference. It is respectfully submitted that a careful reading of Kelham, column 7, lines 42 - 65 will show that only gaseous products of electrolysis are removed through pipe 11 and only gaseous products are removed through pipe 17, each of which, respectively, feed vessels 12 and 18. There is no suggestion in Kelham (the Examiner's suggestion is considered irrelevant) that vessels 12 and 18 would function as gas and liquid disengagers (separators) if, in fact, liquid is passed with the gaseous products through pipes 11 and 17. As indicated in Kelham, Fig. 2, the lower section of vessel 18 which is located beneath the membrane 21 is filled with an hydraulic liquid 24. Accordingly, it may be asked, where would said separated liquid be contained in vessels 12 and 18 since the remaining upper section 19 is filled with gas? Reconsideration of the rejection and allowance of claims 8 - 12 and 17 are respectfully requested.

Claim 34 stands newly rejected as anticipated over the new reference to Sawamoto et al. In connection with this rejection, the Examiner contends that the applicants' amendment necessitated a new reference rejection and, thus, the final rejection. The error of this reasoning is explained above, starting on page 18, part F. Claim 34 recites a permselective polymer membrane unmodified to have low alkali metal ion transmission. Neither Kelham nor Sawamoto et al. are prior art since these references do not disclose an electrolytic cell for the production of an alkali metal halate, as required in the preamble of claim 34. Accordingly, claim 34 is not anticipated.

As indicated above, the clear reliance of the applicants on the preambles of amended claim 8 and new claim 34 during prosecution transforms each of the preambles of these claims into a claim limitation because such reliance indicates use of the preambles to define, in part, the claimed invention. Accordingly, when the preamble of claim 34 is properly considered, as defining, in part, the invention, the cell for producing ozone disclosed in Sawamoto et al. would not anticipate the applicants' claimed invention. Reconsideration and allowance of the applicants' claim 34 are respectfully requested.

IV. OBVIOUSNESS

Claims 8 - 17 stand rejected over various reference combinations, including Cohn et al. in view of Sawamoto et al.; Kelham in view of de Nora et al. '979; Kelham in view of Brown et al.; and Kelham in view of Kuo et al. Without the need to make specific reference to each of the Examiner's reasons for obviousness, suffice it to say that:

- (1) None of the above references are prior art as they fail to teach or suggest the claimed assembly for the production of an alkali metal halate,
- (2) Neither do any of the references teach or suggest the use of a low

alkali metal ion transport efficiency permselective polymer membrane to separate an anode and a cathode in an electrolytic cell for the production of an alkali metal halate (or in any other electrolytic cell).

Accordingly, it is respectfully submitted that none of the reference combinations are considered to render obvious the applicants' claimed invention. Reconsideration and allowance of claims 8 - 17 are respectfully requested.

Claim 34 stands rejected as obvious over Sawamoto et al. in view of de Nora et al. '979. Since neither of these references disclose or suggest an assembly for the production of an alkali metal halate, these references are not prior art. It is respectfully submitted that this combination of references would not render obvious the assembly recited in the applicants' claim 34. The scope limiting preamble of new claim 34 together with the clear reliance on the claim preamble by the applicants during the prosecution of the application transforms the preamble into a claim limitation (MPEP 2111.02 (II), last two paragraphs). Should the Examiner enter the amendment of claim 34, in accordance with MPEP 608.01 (m), this would place the claim in better form for appeal, since a Jepson claim form preamble is clearly considered (in accordance with 37 CFR 1.75 (e)) to recite part of a claimed combination which in claim 34 includes an alkali metal halate cell, as recited in the preamble of claim 34.

For all the reasons given above, it is respectfully requested that the Examiner withdraw the final rejection, enter this amendment and the enclosed affidavit, and allow claims 8 - 17, 34, and 35.

Respectfully submitted,



Andrew E. Pierce
Attorney for Applicants
Reg. No. 26,017
(864) 972 0603
FAX (864) 972 0360

June 2, 2006
161 McCracken Drive
Seneca, SC 29678

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant commissioner for Patents, P.O. Box 1450, alexandria, VA 22313-1450 on June 2, 2006

Person mailing: Andrew E. Pierce

Signature: Andrew E. Pierce

Date: 6/2/06